

ABSTRACT OF THE DISCLOSURE

The present invention relates to the tailoring the reflectivity spectrum of a SGDBR by applying digital sampling theory to choose the way each reflector is sampled. The resulting mirror covers a larger wavelength span and has peaks with a larger, more uniform, coupling constant (κ) than the mirrors produced using conventional approaches. The improved mirror also retains the benefits of the sample grating approach. Additionally, most of the embodiments are relatively simple to manufacture.